REMARKS/ARGUMENTS

The Examiner is thanked for the clarity and conciseness of the Office Action and for the citation of the references which have been studied with interest and care.

Claim Rejections - 35 U.S.C. § 103

Claims 1-8, 10, 12-13, 20, 22-25 and 28-30 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman et al. (US-6,021,309 hereinafter, Sherman) in view of Ibanez-Meier et al. (US-5,946,603 hereinafter, Ibanez-Meier).

Sherman discloses a method and apparatus for providing forward-link channel-frequency allocation for multiple-satellite cellular communications networks. As noted by the Examiner, "Sherman differs from the claimed invention by not explicitly reciting identifying individual component impairments of a total link degradation." [Office Action, page 3.]

Ibanez-Meier discloses a method and apparatus for responding to a blockage environment in a communication system. Ibanez-Meier, at column 4, line 31 - column 6, line 44, only discloses determining a terminal blockage profile. Referring to FIG. 5, "[t]he variations in the signal strength or amplitude of the Fresnel diffracted signal is then averaged or normalized in task 68 to create a Fresnel diffracted signal threshold or signature." [Ibanez-Meier, column 6, lines 1-4.] FIG. 6 of Ibanez-Meier shows an example terminal blockage profile based on Fresnel diffracted signals.

It is clear from the foregoing discussion that Ibanez-Meier does not disclose or suggest individually identifying, or differentiating in any way, between possible different obstructions. Therefore, Applicant respectfully traverses the assertion that "Ibanez-Meier teaches a method and apparatus for responding to a blockage environment in the UHF band (Col. 2 lines 19-30) that includes identifying the individual component impairments of a total link degradation." [Office Action, page 3.]

Further with respect to claim 2, Sherman et al., column 4, lines 40-51 and column 15, lines 42-52, does not appear to disclose or suggest that "the CW tone is out of the communications bandwidth". Rather, this portion of Sherman merely appears to discuss pilot signals that are used for acquisition purposes, not for identifying individual link impairments.

Further with respect to claim 10 (and also currently amended claim 20), the Examiner cited Ibanez-Meier, column 9, line 61 - column 10, line 11, in support of the assertion that "Sherman in view of Ibanez-Meier teaches the means for communicating provides a real time indication of link quality." [Office Action, page 4 (emphasis added).]

Referring to FIG. 3 of Ibanez-Meier, a "satellite blockage profile" is constructed, which is clearly not a real time process. The satellite blockage profile is stored and an algorithm responds to that profile, e.g., to facilitate a hand-off.

Applicant's method of determining communication link quality, in contrast, provides the user with a real time measure of individual link impairments, for example, while moving between an original location and potential relocations. This improves communication performance and eliminates the need for a user to judge whether a given relocation is sufficiently "clear" to allow communications. Ibanez-Meier does not appear to provide a real time measure of impairments, and in some cases, e.g., the arrival of a large truck, an a priori determined blockage profile is of limited value.

Further with respect to claims 12, 13, 23 and 24, in Sherman, interference and noise results in the system itself, interference being cochannel interference from cross products with CDMA codes described as "self interference" and noise components. In contrast, the present invention addresses external interference and noise sources.

For the reasons discussed above, it is respectfully submitted that claims 1-8, 10, 12-13, 20, 22-25 and 28-30 are not disclosed or suggested by the collective teachings of the cited references and would not have been obvious to one of ordinary skill in the art.

Claim 11 was rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman in view of Ibanez-Meier as applied to claim 1 above, and further in view of Rydbeck et al. (US-5,930,718 hereinafter, Rydbeck).

For the reasons discussed above, and also considering the teachings of the additional cited reference, it is respectfully submitted that claim 11 is not disclosed or suggested by the collective teachings of the cited references and would not have been obvious to one of ordinary skill in the art.

Claims 14 and 26 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman in view of Ibanez-Meier as applied to claim 1 above, and further in view of Lin et al. (US 2002/0114398 hereinafter, Lin).

For the reasons discussed above, and also considering the teachings of the additional cited reference, it is respectfully submitted that claim 14 and 26 are not disclosed or suggested by the collective teachings of the cited references and would not have been obvious to one of ordinary skill in the art.

Claim 15 was rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman in view of Ibanez-Meier as applied to claim 1 above, and further in view of Gilmore et al. (US-5,835,847 hereinafter, Gilmore).

Gilmore further describes the use of pilot signals for initial signal acquisition (column 2, lines 12-43) and teaches means to control the transmitted level of the pilot signals that interactively measures user power transfer. These codes are pseudo random sequences that are unmodulated by data.

For the reasons discussed above, and also considering the teachings of the additional cited reference, it is respectfully submitted that claim 15 is not disclosed or suggested by the collective teachings of the cited references and would not have been obvious to one of ordinary skill in the art.

Claim 27 was rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman in view of Ibanez-Meier as applied to claim 20 above, and further in view of Duggan (US-4,776,035).

For the reasons discussed above, and also considering the teachings of the additional cited reference, it is respectfully submitted that claim 27 is not disclosed or suggested by the collective teachings of the cited references and would not have been obvious to one of ordinary skill in the art.

Claims 31 and 32 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman in view of Ibanez-Meier as applied to claim 1 and 20 above, and further in view of the Applicant's admitted prior art, Dybdal et al. (US-5,781,845 hereinafter, Dybdal).

Dybdal applies to detecting reflected signal components when the antenna is transmitting. In this case, the design functions like a radar system detecting the time delays of the reflections and minimizing their values with adaptive weighting.

In Applicant's beacon technique, the correlation of the received coded signal is measured for several purposes, and the cross correlation of the received signal and the replica produced by the user displays both the direct signal and the time delayed multipath signal components. These delayed multipath components indicated by the cross correlation provide the tap settings for the adaptive rake receiver used to negate multipath. Conventionally, adaptive rake receivers operate iteratively to establish their values. The insight provided by the time delays measured with the coded beacon signal provide the means to establish the time delay weighting more efficiently. In some cases, FDMA or TDMA, the iterative processing based on signal component correlation does not have the same resolution as is enjoyed by the coded beacon signal that is continuously transmitted over the receiving bandwidth.

For the reasons discussed above, and also considering the teachings of the additional cited references, it is respectfully submitted that claims 31 and 32 are not disclosed or

suggested by the collective teachings of the cited references and would not have been obvious to one of ordinary skill in the art.

Allowable Subject Matter

Claims 16-19 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In view of the foregoing remarks, it is respectfully submitted that these claims are allowable in their present form.

CONCLUDING REMARKS

Applicant submits that the application is in condition for allowance. Concurrence by the Examiner and early passage of the application to issue are respectfully requested.

Any additional fees which are required in connection with this communication and which are not specifically provided for herewith are authorized to be charged to Deposit Account No. 500651. Any overpayments are also authorized to be credited to this account.

Respectfully submitted,

May 30, 2007

/Peter L. Holmes/
Peter L. Holmes
Reg. No. 37,353
Attorney for Applicant

HENRICKS, SLAVIN & HOLMES LLP
840 Apollo Street, Suite 200
El Segundo, California 90245-4737
Telephone: (310) 563-1454
Facsimile: (310) 563-1460